



**Subset of the**

**Technical Paper**

**PLCopen Technical Committee 2 – Task Force**

**Function Blocks for motion control:**

**Part 4 –Coordinated Motion**

**Version 1.0, Published**

**Appendix I**

**Compliance Procedure and Compliance List**

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## Appendix 1. Compliance Procedure and Compliance List

Listed in this Appendix are the requirements for the compliance statement from the supplier of the Motion Control Function Blocks. The compliance statement consists of two main groups: supported data types (see Appendix 1.2 Supported Data types) and supported Function Blocks, in combination with the applicable inputs and outputs see (Appendix 1.2 Supported Data types and its paragraphs). The supplier is required fill out the tables for the used data types and Function Blocks, according to their product, committing their support to the specification.

By submitting these tables to PLCopen, and after approval by PLCopen, the list will be published on the PLCopen website, [www.plcopen.org](http://www.plcopen.org) , as well as a shortform overview, as specified in Appendix 1.5 Short overview of the Functions Blocks.

In addition to this approval, the supplier is granted access and usage rights of the PLCopen Motion Control logo, as described in chapter Appendix 1.6 The PLCopen Motion Control Logo and Its Usage.

### Data types

The data type REAL listed in the Function Blocks and parameters (e.g. for velocity, acceleration, distance, etc.) may be exchanged to SINT, INT, DINT or LREAL without to be seen as incompliant to this standard, as long as they are consistent for the whole set of Function Blocks and parameters.

Implementation allows the extension of data types as long as the basic data type is kept. For example: WORD may be changed to DWORD, but not to REAL.

### Function Blocks and Inputs and Outputs

An implementation which claims compliance with this PLCopen specification shall offer a set of Function Blocks for motion control, meaning one or more Function Blocks, with at least the **basic** input and output variables, marked as “**B**” in the tables. These inputs and outputs have to be supported to be compliant.

For higher-level systems and future extensions any subset of the **extended** input and output variables, marked as “**E**” in the tables can be implemented.

Vendor specific additions are marked with “**V**”, and can be listed as such in the supplier documentation.

- |  |   |
|--|---|
| - <b>Basic</b> input/output variables are mandatory    | Marked in the tables with the letter “ <b>B</b> ”                 |
| - <b>Extended</b> input /output variables are optional | Marked in the tables with the letter “ <b>E</b> ”                 |
| - <b>Vendor Specific</b> additions                     | Marked in the vendor’s compliance documentation with “ <b>V</b> ” |

All the vendor specific items will not be listed in the comparison table on the PLCopen website, but in the detailed vendor specific list, which also is published.

All vendor specific in- and outputs of all FBs must be listed in the certification list of the supplier. With this, the certification listing from a supplier describes all the I/Os of the relevant FBs, including vendor-specific extensions, and thus showing the complete FBs as used by the supplier.

**Appendix 1.1. Statement of Supplier**

Supplier name	Advanced Motion Controls
Supplier address	3805 Calle Tecate
City	Camarillo
Country	California 93012, USA
Telephone	805-389-1935
Fax	805-389-1165
Email address	bartasa@t-online.hu
Product Name	Click&Move (C&M)
Product version	4.2.0
Release date	12/11/2012

I hereby state that the following tables as filled out and submitted do match our product as well as the accompanying user manual, as stated above.

Name of representation (person):  
Sándor Barta

CEO of Advanced Motion Controls

Date of signature (dd/mm/yyyy):  
24/10/2012

Signature:



## Appendix 1.2. Supported Data types

Defined datatypes with MC library:	Supported	If not supported, which datatype used
BOOL	Y	
INT		Int8, Int16, Int32, Int64
WORD		UInt8, UInt16, UInt32, UInt64
REAL		Float32, Float64
ENUM	Y	

**Table 1: Supported datatypes**

Within the specification the following derived datatypes are defined. Which structure is used in this system:

Derived datatypes:	Where used	Supported	Which structure
AXES_GROUP_REF	Nearly all FBs	Y	TD_AxisRefIntf
IDENT_IN_GROUP_REF	MC_AddAxisToGroup MC_RemoveAxisFromGroup	Y	IdentInGroupRef
MC_BUFFER_MODE	In all buffered FBs	Y	EN_BufferMode
MC_KIN_REF	MC_SetKinTransform MC_ReadKinTransform	Y	KinRefIntf
MC_EXECUTION_MODE	MC_SetKinTransform	Y	EN_ExecutionMode
MC_COORD_REF	MC_SetCoordinateTransformation	Y	CoordRefIntf
MC_GROUP_BUFFER_MODE	MC_MoveLinearAbsolute MC_MoveCircularAbsolute	Y	EN_BufferMode
MC_TRANSITION_MODE	MC_MoveLinearAbsolute MC_MoveLinearRelative MC_MoveCircularAbsolute MC_MoveCircularRelative	Y	EN_TransitionMode
MC_CIRC_PATHCHOICE	MC_MoveCircularAbsolute MC_MoveCircularRelative	Y	EN_PathChoice
MC_PATH_DATA_REF MC_PATH_REF	MC_PathSelect MC_MovePath	Y	PathRefIntf

**Table 2: Supported derived datatypes**

## Appendix 1.3. Supported Buffer Modes

No.	MC_BUFFER_MODE	Supported
0	Aborting	Y
1	Buffered	Y
2	BlendingLow	Y
3	BlendingPrevious	Y
4	BlendingNext	Y
5	BlendingHigh	Y

**Table 3: Overview of buffer modes**

## Appendix 1.4. Supported Transition Modes

No.	MC_TRANSITION_MODE	Supported
0	TMNone	Y
1	TMMaxVelocity	N
2	TMDefinedVelocity	N
3	TMCornerDistance	N
4	TMMaxCornerDeviation	N
5 - 9	Reserved by PLCopen	N
10	TMCornerVelocity	Y

**Table 4: Overview of available transition modes**

**Appendix 1.5. Short overview of the Function Blocks**

<b>Coordinated Function Blocks</b>	<b>Supported Yes / No</b>	<b>Comments (&lt;= 48 char.)</b>
MC_AddAxisToGroup	Y	
MC_RemoveAxisFromGroup	Y	
MC_UngroupAllAxes	Y	
MC_GroupReadConfiguration	Y	
MC_GroupEnable	Y	
MC_GroupDisable	Y	
MC_GroupHome	N	
MC_SetKinTransform	Y	
MC_SetCartesianTransform	N	Implemented in MC_SetCoordinateTransform
MC_SetCoordinateTransform	Y	
MC_ReadKinTransform	Y	
MC_ReadCartesianTransform	N	Implemented in MC_ReadCoordinateTransform
MC_ReadCoordinateTransform	Y	
MC_GroupSetPosition	N	
MC_GroupReadActualPosition	Y	
MC_GroupReadActualVelocity	N	This function supported by C&M specific FB
MC_GroupReadActualAcceleration	N	This function supported by C&M specific FB
MC_GroupStop	Y	
MC_GroupHalt	Y	
MC_GroupInterrupt	Y	
MC_GroupContinue	Y	
MC_GroupReadStatus	Y	
MC_GroupReadError	Y	
MC_GroupReset	Y	
MC_MoveLinearAbsolute	Y	
MC_MoveLinearRelative	Y	
MC_MoveCircularAbsolute	Y	
MC_MoveCircularRelative	Y	
MC_MoveDirectAbsolute	Y	
MC_MoveDirectRelative	Y	
MC_PathSelect	N	This function supported by C&M specific FB
MC_MovePath	Y	
MC_GroupSetOverride	N	
<b>Coordinated</b>	<b>Supported Yes / No</b>	<b>Comments (&lt;= 48 char.)</b>
MC_SyncAxisToGroup	N	
MC_SyncGroupToAxis	N	
MC_SetDynCoordTransform	N	
MC_TrackConveyorbelt	N	
MC_TrackRotaryTable	N	

**Table 5: Short overview of the Function Blocks**

### Appendix A 5.1. MC\_AddAxisToGroup

If Supported	MC_AddAxisToGroup	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
B	Axis	Y	AXIS_REF
VAR_INPUT			
B	Execute	Y	
E	IdentInGroup	Y	
VAR_OUTPUT			
B	Done	Y	
E	Busy	Y	
B	Error	Y	
E	ErrorID	Y	

### Appendix A 5.2. MC\_RemoveAxisFromGroup

If Supported	MC_RemoveAxisFromGroup	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Execute	Y	
E	IdentInGroup	Y	
VAR_OUTPUT			
B	Done	Y	
E	Busy	Y	
B	Error	Y	
E	ErrorID	Y	

### Appendix A 5.3. MC\_UngroupAllAxes

If Supported	MC_UngroupAllAxes	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Execute	Y	
VAR_OUTPUT			
B	Done	Y	
E	Busy	Y	
B	Error	Y	
E	ErrorID	Y	

### Appendix A 5.4. MC\_GroupReadConfiguration

If Supported	MC_GroupReadConfiguration	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Enable	Y	
B	IdentInGroup	Y	
E	CoordSystem	Y	
VAR_OUTPUT			
B	Axis	Y	AXIS_REF
B	Valid	Y	
E	Busy	Y	
B	Error	Y	
E	ErrorID	Y	

### Appendix A 5.5. MC\_GroupEnable

If Supported	MC_GroupEnable	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Execute	Y	
V	BufferMode	Y	
VAR_OUTPUT			
B	Done	Y	
E	Busy	Y	
V	Active	Y	
V	CommandAborted	Y	
B	Error	Y	
E	ErrorID	Y	

### Appendix A 5.6. MC\_GroupDisable

If Supported	MC_GroupDisable	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Execute	Y	
V	BufferMode	Y	
VAR_OUTPUT			
B	Done	Y	
E	Busy	Y	
V	Active	Y	
V	CommandAborted	Y	
B	Error	Y	
E	ErrorID	Y	

### Appendix A 5.7. MC\_GroupHome

If Supported	MC_GroupHome	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup		
VAR_INPUT			
B	Execute		
B	Position		
E	CoordSystem		
E	BufferMode		
VAR_OUTPUT			
B	Done		
E	Busy		
E	Active		
E	CommandAborted		
B	Error		
E	ErrorID		

### Appendix A 5.8. MC\_SetKinTransform

If Supported	MC_SetKinTransform	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Execute	Y	
E	KinTransform	Y	
E	ExecutionMode	Y	
VAR_OUTPUT			
B	Done	Y	
E	Busy	Y	
E	Active	N	
E	CommandAborted	Y	
B	Error	Y	
E	ErrorID	Y	

### Appendix A 5.9. MC\_SetCartesianTransform

If Supported	MC_SetCartesianTransform	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup		
VAR_INPUT			
B	Execute		
B	TransX		
B	TransY		
B	TransZ		
B	RotAngle1		
B	RotAngle2		
B	RotAngle3		
E	ExecutionMode		
VAR_OUTPUT			
B	Done		
E	Busy		
E	Active		
E	CommandAborted		
B	Error		
E	ErrorID		

### Appendix A 5.10. MC\_SetCoordinateTransform

If Supported	MC_SetCoordinateTransform	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Execute	Y	
E	CoordTransform	Y	
E	ExecutionMode	Y	
VAR_OUTPUT			
B	Done	Y	
E	Busy	Y	
E	Active	N	
E	CommandAborted	Y	
B	Error	Y	
E	ErrorID	Y	



**Appendix A 5.11. MC\_ReadKinTransform**

If Supported	MC_ReadKinTransform	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Enable	Y	
VAR_OUTPUT			
B	Valid	Y	
E	Busy	Y	
B	KinTransform	Y	
B	Error	Y	
E	ErrorID	Y	

**Appendix A 5.12. MC\_ReadCartesianTransform**

If Supported	MC_ReadCartesianTransform	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup		
VAR_INPUT			
B	Enable		
VAR_OUTPUT			
B	Valid		
E	Busy		
B	TransX		
B	TransY		
B	TransZ		
B	RotAngle1		
B	RotAngle2		
B	RotAngle3		
B	Error		
E	ErrorID		

**Appendix A 5.13. MC\_ReadCoordinateTransform**

If Supported	MC_ReadCoordinateTransform	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Enable	Y	
VAR_OUTPUT			
B	Valid	Y	
E	Busy	Y	
B	CoordTransform	Y	
B	Error	Y	
E	ErrorID	Y	

### Appendix A 5.14. MC\_GroupSetPosition

If Supported	MC_GroupSetPosition	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup		
VAR_INPUT			
B	Execute		
B	Position		
E	Relative		
E	CoordSystem		
E	BufferMode		
VAR_OUTPUT			
B	Done		
E	Busy		
E	Active		
E	CommandAborted		
B	Error		
E	ErrorID		

### Appendix A 5.15. MC\_GroupReadActualPosition

If Supported	MC_GroupReadActualPosition	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Enable	Y	
E	CoordSystem	Y	
VAR_OUTPUT			
B	Valid	Y	
E	Busy	Y	
B	Error	Y	
E	ErrorID	Y	
B	Position	Y	
V	TimeStamp	Y	

### Appendix A 5.16. MC\_GroupReadActualVelocity

If Supported	MC_GroupReadActualVelocity	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup		
VAR_INPUT			
B	Enable		
E	CoordSystem		
VAR_OUTPUT			
B	Valid		
E	Busy		
B	Error		
E	ErrorID		
B	Velocity		
E	PathVelocity		

### Appendix A 5.17. MC\_GroupReadActualAcceleration

If Supported	MC_GroupReadActualAcceleration	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup		
VAR_INPUT			
B	Enable		
E	CoordSystem		
VAR_OUTPUT			
B	Valid		
E	Busy		
B	Error		
E	ErrorID		
B	Acceleration		
E	Path Acceleration		

### Appendix A 5.18. MC\_GroupStop

If Supported	MC_GroupStop	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Execute	Y	
E	Deceleration	Y	
E	Jerk	Y	
E	BufferMode	Y	
VAR_OUTPUT			
B	Done	Y	
E	Busy	Y	
E	Active	Y	
E	CommandAborted	Y	
B	Error	Y	
E	ErrorID	Y	

### Appendix A 5.19. MC\_GroupHalt

If Supported	MC_GroupHalt	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Execute	Y	
E	Deceleration	Y	
E	Jerk	Y	
E	BufferMode	Y	
VAR_OUTPUT			
B	Done	Y	
E	Busy	Y	
E	Active	Y	
E	CommandAborted	Y	
B	Error	Y	
E	ErrorID	Y	

### Appendix A 5.20. MC\_GroupInterrupt

If Supported	MC_GroupInterrupt	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Execute	Y	
E	Deceleration	Y	
E	Jerk	Y	
VAR_OUTPUT			
B	Done	Y	
E	Busy	Y	
E	Command Aborted	Y	
B	Error	Y	
E	ErrorID	Y	

### Appendix A 5.21. MC\_GroupContinue

If Supported	MC_GroupContinue	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Execute	Y	
VAR_OUTPUT			
B	Done	Y	
E	Busy	Y	
E	Command Aborted	N	
B	Error	Y	
E	ErrorID	Y	

### Appendix A 5.22. MC\_GroupReadStatus

If Supported	MC_GroupReadStatus	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Enable	Y	
VAR_OUTPUT			
B	Valid	Y	
E	Busy	Y	
B	GroupMoving	Y	
B	GroupHoming	Y	
B	GroupErrorStop	Y	
B	GroupStandby	Y	
B	GroupStopping	Y	
B	GroupDisabled	Y	
E	ConstantVelocity	Y	
E	Accelerating	Y	
E	Decelerating	Y	
E	InPosition	Y	
B	Error	Y	
E	ErrorID	Y	
V	TimeStamp	Y	
V	ZeroSpeed	Y	

### Appendix A 5.23. MC\_GroupReadError

If Supported	MC_GroupReadError	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROIP_REF
VAR_INPUT			
B	Enable	Y	
VAR_OUTPUT			
B	Valid	Y	
E	Busy	Y	
B	Error	Y	
E	ErrorID	Y	
B	GroupErrorID	Y	
V	TimeStamp	Y	

### Appendix A 5.24. MC\_GroupReset

If Supported	MC_GroupReset	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Execute	Y	
VAR_OUTPUT			
B	Done	Y	
E	Busy	Y	
B	Error	Y	
E	ErrorID	Y	

### Appendix A 5.25. MC\_MoveLinearAbsolute

If Supported	MC_MoveLinearAbsolute	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Execute	Y	
B	Position	Y	
E	Velocity	Y	
E	Acceleration	Y	
E	Deceleration	Y	
E	Jerk	Y	
E	CoordSystem	Y	
E	BufferMode	Y	
E	TransitionMode	Y	
E	TransitionParameter	Y	
VAR_OUTPUT			
B	Done	Y	
E	Busy	Y	
E	Active	Y	
E	CommandAborted	Y	
B	Error	Y	
E	ErrorID	Y	

**Appendix A 5.26. MC\_MoveLinearRelative**

If Supported	MC_MoveLinearRelative	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Execute	Y	
B	Distance	Y	
E	Velocity	Y	
E	Acceleration	Y	
E	Deceleration	Y	
E	Jerk	Y	
E	CoordSystem	Y	
E	BufferMode	Y	
E	TransitionMode	Y	
E	TransitionParameter	Y	
VAR_OUTPUT			
B	Done	Y	
E	Busy	Y	
E	Active	Y	
E	CommandAborted	Y	
B	Error	Y	
E	ErrorID	Y	

**Appendix A 5.27. MC\_MoveCircularAbsolute**

If Supported	MC_MoveCircularAbsolute	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Execute	Y	
B	CircMode	Y	
B	AuxPoint	Y	
B	EndPoint	Y	
E	PathChoice	Y	
V	Turns	Y	
E	Velocity	Y	
E	Acceleration	Y	
E	Deceleration	Y	
E	Jerk	Y	
E	CoordSystem	Y	
E	BufferMode	Y	
E	TransitionMode	Y	
E	TransitionParameter	Y	
VAR_OUTPUT			
B	Done	Y	
E	Busy	Y	
E	Active	Y	
E	CommandAborted	Y	
B	Error	Y	
E	ErrorID	Y	

### Appendix A 5.28. MC\_MoveCircularRelative

If Supported	MC_MoveCircularRelative	Sup. Y/N	Comments
<b>VAR_IN_OUT</b>			
B	AxesGroup	Y	AXES_GROUP_REF
<b>VAR_INPUT</b>			
B	Execute	Y	
B	CircMode	Y	
B	AuxPoint	Y	
B	EndPoint	Y	
E	PathChoice	Y	
V	Turns	Y	
E	Velocity	Y	
E	Acceleration	Y	
E	Deceleration	Y	
E	Jerk	Y	
E	CoordSystem	Y	
E	BufferMode	Y	
E	TransitionMode	Y	
E	TransitionParameter	Y	
<b>VAR_OUTPUT</b>			
B	Done	Y	
E	Busy	Y	
E	Active	Y	
E	CommandAborted	Y	
B	Error	Y	
E	ErrorID	Y	

### Appendix A 5.29. MC\_MoveDirectAbsolute

If Supported	MC_MoveDirectAbsolute	Sup. Y/N	Comments
<b>VAR_IN_OUT</b>			
B	AxesGroup	Y	AXES_GROUP_REF
<b>VAR_INPUT</b>			
B	Execute	Y	
V	DirectMode	Y	
B	Position	Y	
V	Velocity	Y	
V	Acceleration	Y	
V	Deceleration	Y	
V	Jerk	Y	
E	CoordSystem	Y	
E	BufferMode	Y	
E	TransitionMode	N	
E	TransitionParameter	N	
<b>VAR_OUTPUT</b>			
B	Done	Y	
E	Busy	Y	
E	Active	Y	
E	CommandAborted	Y	
B	Error	Y	
E	ErrorID	Y	

### Appendix A 5.30. MC\_MoveDirectRelative

If Supported	MC_MoveDirectRelative	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
VAR_INPUT			
B	Execute	Y	
V	DirectMode	Y	
B	Distance	Y	
V	Velocity	Y	
V	Acceleration	Y	
V	Deceleration	Y	
V	Jerk	Y	
E	CoordSystem	Y	
E	BufferMode	Y	
E	TransitionMode	N	
E	TransitionParameter	N	
VAR_OUTPUT			
B	Done	Y	
E	Busy	Y	
E	Active	Y	
E	CommandAborted	Y	
B	Error	Y	
E	ErrorID	Y	

### Appendix A 5.31. MC\_PathSelect

If Supported	MC_PathSelect	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup		
B	PathData		
B	PathDescription		
VAR_INPUT			
B	Execute		
E	CoordSystem		
VAR_OUTPUT			
B	Done		
E	Busy		
B	Error		
E	ErrorID		

### Appendix A 5.32. MC\_MovePath

If Supported	MC_MovePath	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup	Y	AXES_GROUP_REF
B	PathData	Y	PATH_REF
VAR_INPUT			
B	Execute	Y	
E	CoordSystem	N	
E	BufferMode	Y	
E	TransitionMode	Y	
E	TransitionParameter	Y	
VAR_OUTPUT			
B	Done	Y	
E	Busy	Y	
E	Active	Y	
E	CommandAborted	Y	
B	Error	Y	



E	ErrorID	Y	
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### Appendix A 5.33. MC\_GroupSetOverride

If Supported	MC_GroupSetOverride	Sup. Y/N	Comments
<b>VAR_IN_OUT</b>			
B	AxesGroup		
<b>VAR_INPUT</b>			
B	Enable		
B	VelFactor		
E	AccFactor		
E	JerkFactor		
<b>VAR_OUTPUT</b>			
B	Enabled		
E	Busy		
B	Error		
E	ErrorID		

### Appendix A 5.34. MC\_SyncAxisToGroup

If Supported	MC_SyncAxisToGroup	Sup. Y/N	Comments
<b>VAR_IN_OUT</b>			
B	AxesGroup		
B	SlaveAxis		
<b>VAR_INPUT</b>			
B	Execute		
E	RatioNumerator		
E	RatioDenominator		
E	Acceleration		
E	Deceleration		
E	Jerk		
E	CoordSystem		
E	BufferMode		
<b>VAR_OUTPUT</b>			
B	InSync		
E	Busy		
E	Active		
E	CommandAborted		
B	Error		
E	ErrorID		

### Appendix A 5.35 MC\_SyncGroupToAxis

If Supported	MC_SyncGroupToAxis	Sup. Y/N	Comments
VAR_IN_OUT			
B	Master		
B	AxesGroup		
B	PathData		
VAR_INPUT			
B	Execute		
E	Mode		
E	TuCNumerator		
E	TuCDenominator		
E	Acceleration		
E	Deceleration		
E	Jerk		
E	CoordSystem		
E	BufferMode		
VAR_OUTPUT			
B	InSync		
E	Busy		
E	Active		
E	CommandAborted		
B	Error		
E	ErrorID		

### Appendix A 5.36. MC\_SetDynCoordTransform

If Supported	MC_SetDynCoordTransform	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup		
B	MasterAxesGroup		
B	CoordTransform		
VAR_INPUT			
B	Execute		
E	Mode		
E	CoordSystem		
E	BufferMode		
VAR_OUTPUT			
B	Done		
E	Busy		
E	Active		
E	CommandAborted		
B	Error		
E	ErrorID		

**Appendix A 5.37. MC\_TrackConveyorBelt**

If Supported	MC_TrackConveyorBelt	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup		
E	ConveyorBelt		
VAR_INPUT			
B	Execute		
B	ConveyorBeltOrigin		
E	InitialObjectPosition		
E	CoordSystem		
E	BufferMode		
VAR_OUTPUT			
B	Done		
E	Busy		
E	Active		
E	CommandAborted		
B	Error		
E	ErrorID		

**Appendix A 5.38. MC\_TrackRotaryTable**

If Supported	MC_TrackRotaryTable	Sup. Y/N	Comments
VAR_IN_OUT			
B	AxesGroup		
E	RotaryTable		
VAR_INPUT			
B	Execute		
B	RotaryTableOrigin		
E	InitialObjectPosition		
E	CoordSystem		
E	BufferMode		
VAR_OUTPUT			
E	Done		
E	Busy		
E	Active		
E	CommandAborted		
B	Error		
E	ErrorID		

**Appendix 1.6. The PLCopen Motion Control Logo and Its Usage**

For quick identification of compliant products, PLCopen has developed a logo for the motion control Function Blocks:



**Figure 1: The PLCopen Motion Control Logo**

This motion control logo is owned and trademarked by PLCopen.

In order to use this logo free-of-charge, the relevant company has to fulfill all the following requirements:

1. the company has to be a voting member of PLCopen;
2. the company has to comply with the existing specification, as specified by the PLCopen Task Force Motion Control, and as published by PLCopen, and of which this statement is a part;
3. this compliance application is provided in written form by the company to PLCopen, clearly stating the applicable software package and the supporting elements of all the specified tables, as specified in the document itself;
4. in case of non-fulfillment, which has to be decided by PLCopen, the company will receive a written statement concerning this from PLCopen. The company will have a one month period to either adopt their software package in such a way that it complies, represented by the issuing of a new compliance statement, or remove all reference to the specification, including the use of the logo, from all their specification, be it technical or promotional material;
5. the logo has to be used as is - meaning the full logo. It may be altered in size providing the original scale and color setting is kept.
6. the logo has to be used in the context of Motion Control.